

In my opinion she is right in considering *Othake robustum* Rydb. as being a variety of *O. roseum* Bush, but I do not agree with her in placing *O. macrolepis* Rydb. as a variety of *O. texanum* (DC.) Bush. From this viewpoint five new combinations for Texan species are required.

PALAFXIA rosea (Bush), new comb. *Othake roseum* Bush in Trans. Acad. Sci. St. Louis **14**: 175, 1904.

PALAFXIA ROSEA, var. **robusta** (Rydb.), new comb. *Othake robustum* Rydb. in N. Am. Fl. **34**, Pt. 1, 60, 1914.

PALAFXIA macrolepis (Rydb.), new comb. *Othake macrolepis* Rydb. in Bull. Torr. Bot. Club. **37**: 332. 1910.

PALAFXIA Reverchonii (Bush), new comb. *Othake Reverchonii* Bush in Trans. Acad. Sci. St. Louis **14**: 180. 1904.

PALAFXIA sphacelata (Nutt. ex Torr.), new comb. *Stevia sphacelata* Nutt. ex. Torr. in Ann. Lyc. N. Y. **2**: 214. 1828.

I am indebted to Dr. I. M. Johnston and to Dr. S. F. Blake for critical study of the plant material, and to Dr. L. H. Shinnors for assistance in preparation of the Latin description.

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THE NORTH AMERICAN REPRESENTATIVES OF *ALISMA PLANTAGO-AQUATICA*.—To one who has long known the two broad-leaved representatives of *Alisma Plantago-aquatica* L. in North America it is a surprise to see growing in Europe the typical plant, for it commonly has lilac or roseate petals (our two plants with them white), while the stamens, ovaries and styles are markedly different from ours. To be sure, the late Professor Gunnar Samuelsson treated our larger-flowered northern plant as a North American subspecies, *A. Plantago-aquatica*, subsp. *brevipes* (Greene) Samuelsson in Arkiv för Bot. xxiv^A, no. 7: 19 (1932), based upon *A. brevipes* Greene, Pittonia, iv. 158 (1900). When we compare the latter plant (which occurs across North America, from Quebec to British Columbia, south to Nova Scotia, New England, Maryland, Michigan, Iowa, Nebraska, New Mexico, Arizona and northern Mexico) with true Old World *A. Plantago-aquatica*, surprisingly definite characters are found to separate them. These are concisely stated below:

True *ALISMA PLANTAGO-AQUATICA*. Petals commonly lilac or roseate, sometimes white; anthers 1–1.25 mm. long; style 1–1.25 mm. long, erect, straight, median at summit of flowering carpel, the latter tapering to style.

A. TRIVIALE Pursh, Fl. Am. Sept. i. 252, mostly (1814). *A. brevipes* Greene. Petals usually white; anthers 0.6–0.8 mm. long; style 0.5–0.7 mm. long, strongly curved, borne at ventral side of summit of margin of the flowering carpel, the dorsal keel of the latter broadly rounded.

It would seem that our boreal *Alisma triviale* is well distinguished from the Old World plant.

The differentiation of our relatively northern *Alisma triviale* and the relatively southern *A. subcordatum* Raf. (Florida to Texas and Mexico, north to New England, New York, southern Ontario, Michigan, Wisconsin, Minnesota and Nebraska) was made by Pursh. Michaux, Fl. Bor.-Am. i. 218 (1803) had *A. Plantago* only from Canada, where *A. triviale* abounds. Pursh, Fl. Am. Sept. i. 252 (1814), took over, with unimportant change, Michaux's diagnosis of the Canadian plant, citing Michaux as his basis, but stretching the range from "Canada to Florida", with the new name *A. triviale*. Then from "New Jersey and Pennsylvania" his new *A. parviflorum* (p. 253) with "flowers small". It is quite evident that Pursh intended the larger-flowered and generally more northern plant as *A. triviale*, the smaller-flowered and generally more southern plant as his *A. parviflorum*. Rafinesque, however, had already defined the latter in 1808 as *A. subcordatum*.

The essential bibliography and the best specific characters of the two follow:

A. TRIVIALE Pursh, Fl. Am. Sept. i. 252 (1814) in large part at least. *A. Plantago* sensu Michx. Fl. Bor.-Am. i. 218 (1803), not L. Syst. ed. 10, ii. 993 (1759). *A. Plantago*, ϵ . *americanum* Roem. & Schultes, Syst. vii. 1598 (1830). *A. Plantago*, var. *triviale* (Pursh) BSP. Prelim. Cat. N. Y. Pl. 58 (1888). *A. Plantago-aquatica*, var. *triviale* (Pursh) Farwell in Ann. Rep. Comm. Parks and Boulev. Detroit, xi. 44 (1900). *A. brevipes* Greene, Pittonia, iv. 158 (1900). *A. superbum* Lunell, Bull. Leeds Herb. ii. 5 (1908). *A. Plantago-aquatica*, ssp. *brevipes* (Greene) Samuelsson in Arkiv för Bot. xxiv^A. no. 7: 19 (1932). *A. Plantago-aquatica*, var. *brevipes* (Greene) Victorin (wrongly ascribed to Samuelsson), Fl. Laurent. 615 (1935).—Flowers 9–13 mm. broad; sepals broadly scarious-margined, in anthesis 3–4 mm. long; petals 3.5–6 mm. long; stamens twice as long as ovaries; anthers ovoid, 0.6–0.8 mm. long; style about equaling carpel at anthesis; fruiting heads chiefly 4–7 mm. in diameter; achenes 2.2–3 mm. long.

A. SUBCORDATUM Raf. in Med. Repos. ii. 5 (1808). *A. parviflorum* [as *parviflora*] Pursh, l. c. 253 (1814). *A. Plantago*, β . *parviflorum* (Pursh) Torr. Fl. N. Mid. U. S. 362 (1824). *A. Plantago-aquatica*, var. *parviflorum* (Pursh) Farwell, l. c. (1900).—Flowers 3–3.5 mm. broad; sepals very narrowly margined, in anthesis 2–2.5 mm. long; petals 1–2 mm. long; stamens only slightly exceeding ovaries; anthers subspherical, 0.3–0.5 mm. long; style about one fourth as long as ovary; fruiting heads mostly 3–4 mm. broad; achenes 1.5–2 mm. long.—M. L. FERNALD.

THE SPORADIC APPEARANCE OF *EPIPACTIS HELLEBORINE*.—It has repeatedly been noted, since it first appeared as a naturalized plant in North America, that *Epipactis Helleborine* (L.) Crantz will suddenly appear in well known woodlands, wooded parks, ravines or thickets as a single individual, soon as several and in a few years as a relatively abundant species. This behavior is apparently not restricted to the American colonies, derived from European progenitors. Picking up, almost at random, Bentham's Handbook of the British Flora, ed. 4 (1878), I read (p. 457) under *E. latifolia* (L.) Sw., a variation of *E. Helleborine*: "Not unfrequent in Britain, but often appearing only in single specimens".—M. L. FERNALD.

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